

# Science Activity: Redworm Composting

## A Bin for All Their Kin

Consider plastic storage bins with lids for indoor use. An inexpensive, durable and lightweight 2.2 sq. ft. bin can handle 2-3 lbs. of kitchen scraps each week. Avoid deep containers; they are heavy to move and compacted bedding makes it difficult for the redworms to forage.

Drill a series of 1/4 - 1/2 inch holes in the bottom and the lid of your container for air circulation. Set your bin on top of bricks or pieces of wood to allow air to enter the bottom of the bin. A newspaper placed under the bin will catch excess moisture and bits of soil.

## Bedding: Making Their House a Home

Bedding provides the redworms the cool, moist environment needed to thrive. Your redworms will tunnel through and digest the bedding along with the food scraps to produce vermicompost. **They will not crawl out of their bin unless the bin becomes too dry or too wet.** Hand-shredded newspaper (color pages included) or corrugated cardboard, ripped into thin strips, make convenient bedding materials. Soak 4 lbs. of bedding in a bucket with 1.5 gals. of water for a few minutes; drain off the excess water and place the bedding loosely in your bin.

## Location, Location, Location!

When choosing a location for the bin, consider the convenience and aesthetics as well as the needs of your redworms. They are most efficient at consuming organic matter and reproducing when they are kept moist and well ventilated in a temperature range of 55o - 75o F. Redworms are sensitive to light, so keep your bin covered and out of direct sunlight. Basements, cool garages and kitchens are all good locations. Freezing temperatures will kill the worms.

## Feeding: These Are A Few Of Our Favorite Things

Redworms require a steady supply of food scraps to grow and multiply. Use a plastic container in your kitchen to collect food scraps. Feed your redworms 2-3 times each week by burying appropriate food scraps directly under the bedding in different locations. The smaller the food scraps, the quicker they will be digested by your redworms. Use the chart below in deciding what to put into your bin.

Add These:		But Not These:	
coffee filter/ grounds fruits and vegetables* citrus peels	Tea Bags/ Leaves Egg Shells/Crushed Cereal/Bread	meat / fat / bones dairy products plastic wrap / tin foil	grease / oils pet waste / litter chemicals, glass, metal

\* Do not add large amounts of raw onions or garlic.

## TROUBLESHOOTING

- fruit flies - bury food scraps beneath the bedding to avoid fruit fly problems. Try flypaper on the lid underside or a sticky yellow card placed next to the bid to capture fruit flies.
- odors - may arise if too many food scraps are added at one time. Discard rotting food; avoid adding scraps for a week.
- too wet - bedding becomes compacted and smelly; air is unable to flow through bin. Check drainage holes, stir contents to increase airflow and add fresh, dry bedding.

## HARVESTING AND USING WORM COMPOST

It will take your worms 6-8 weeks to produce a noticeable amount of vermicompost. The castings appear as small, dark clumps that easily break apart. There are several methods for removing the finished compost.

1. Every 3-4 months, stop feeding for a few weeks and rake the compost to one side of the bin. Add fresh bedding to the other side; only add food scraps to the new bedding. Within a few months your worms will move into the new bedding allowing you to harvest the finished compost. Refill the empty end of the bin with fresh bedding and bury more food scraps.
2. Every 3-4 months dump your entire bin contents into several piles on a sheet of plastic in a brightly lit room. The worms will dive to the pile bottom. Remove the finished compost from the top and sides of the pile.

You can add vermicompost to seedbeds or planting holes or use it as a top dressing during the growing season for your favorite plants. Or try adding vermicompost to your potting mix for houseplants (1/4 by volume). Vermicompost will not burn your tender seedlings. However, pure worm castings may have a high soluble salt content; use them sparingly and avoid direct contact with plant roots.

